UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/693,419	10/20/2000	Chien Fang	112025-0417	1264

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EXAMINER
TSEGAYE, SABA

ART UNIT	PAPER NUMBER
2662	6

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No	Applicant(s)
	09/693,419	FANG ET AL.
	Examiner	Art Unit
	Saba Tsegaye	2662

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6 and 9* is/are allowed.

6)☒ Claim(s) *1-5, 7, 8 and 10-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   Claims 1, 7, 8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

The Admitted Prior Art (page 1-3) in view of Lyon et al. (US 6,333,917).

Regarding claims 1 and 8, the Admitted Prior Art discloses: a first linecard that receives

IP packets from a computer network and converted into fixed length packets; a switching fabric,

which includes queues, receives segments from the first linecard; a second line card receives the

segments from the switching fabric and translating the segments into a computer network packet

for transmission.

However, the Admitted prior Art does not expressly disclose: the queues having a

threshold; a bit is set as the queue is filled above lower threshold; and in response to detecting a

segment as being marked by the second line-card, discarding the output packet with a random

probability.

Lyon teaches, in Fig. 4, a method and apparatus for random early detection (RED)

methodology controls and avoids congestion in a packet network by anticipating congestion and

periodically signaling congestion by marking discarding packets. Further, Lyon teaches a switch

(46) that includes a queue (54), drop/tag section 58 and RED engine 62. The RED engine

monitors the fill of queue 54. Further, the method comprises the steps of determining whether to

mark a packet as an indication of congestion based on fill of the queue, and marking the packet

as the packet leaves the queue. Also as shown in Fig. 4, a line card 48 includes a tag acceleration

feature, RED engine 64, and drop/tag section 60. Line card 48, in response to detecting a packet

as being marked, discards the packet in accordance with a random probability (column 6, line

35-column 8, line 59).

It would have been to one ordinary skill in the art at the time the invention was made to

add a system that sets a bit as queue is filled above lower threshold and in response to detecting a

segment as being marked by the second line-card, discarding the output packet with a random

probability, such as suggested by Lyon, in the switch fabric and in the second line card of

Admitted Prior Art in order to control congestion in a network. One benefit of discard on

dequeue of the second line card is reduced delay in notifying source to slow down transmission

by effective removal of the queuing by switch fabric (column 7, lines 11-21).

Regarding claims 7 and 10, The Admitted Prior Art in view of Lyon discloses all the

claim limitations as stated above, except for selecting, in response to detecting a priority class,

class specific values in calculating a probability for discarding an output packet corresponding to

the selected input packet

Lyon teaches a use of a per connection weight that allows customization of each

connection's treatment. For example, if a premium customer's connection has a higher weight,

that connection can be exempt from selection, or selection of that connection can at least be

deferred by dropping packets from lower class customers.

It would have been obvious to one ordinary skill in the art at the time the invention was

made to add a system that detects a priority class and selects class specific values in calculating a

probability for discarding, such as that suggested by Lyon, in the system of the Admitted Prior

Art in order to provide fairness for switch users.

Regarding claim 11 and 12, The Admitted Prior Art in view of Lyon discloses all the

claim limitations as stated above, except for a computer readable device and electromagnetic

signal containing instruction.

However, It would have been obvious to one ordinary skill in the art at the time the

invention was made to use software-based machines. The benefit using computer-readable

device is that programs can be changed and upgraded and new futures are added easily than

hardware changes.

2.   Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over The Admitted

Prior Art in view of Lyon as applied to claims 1 and 8 above, and further in view of Wisniewski

et al. (US 5,687,176).

The Admitted Prior Art in view of Lyon discloses all the claim limitations as stated

above. Further, The Admitted prior Art teaches conversion of packets into the proper format.

However, The Admitted Prior Art in view of Lyon does not expressly disclose an ASCI chip and

a microprocessor mounted on the output line card.

Wisniewski shows in Fig. 1, a line card that includes an ASCI 12, a chip 14 and a

microprocessor 16.

It would have been obvious to one ordinary skill in the art at the time the invention was

made to include an ASCI 12, a chip 14 and a microprocessor 16, such as that suggested by

Wisniewski, in the line card of The Admitted Prior Art in view of Lyon in order to convert

packets into proper format.

Allowable Subject Matter

3.   Claims 6 and 9 are allowed.

Response to Arguments

4.   Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (703) 308-4754. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
May 11, 2004

JOHN PEZZLO
PRIMARY EXAMINER